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BEFORE THE FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON DC 20554

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In the Matter of

Implementation of Section 304
of the Telecommunications
Act of 1996

Commercial Availability of
Navigation Devices

CS Docket No. 97-80

REPLY COMMENTS OF COMMERCIAL ENGINEERING
Dated June 23, 1997

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I. INTRODUCTION

Commercial Engineering urges the Commission to move with all possible speed to implement the commercial availability of navigation devices to the public in a right to attach environment. In particular, the arguments of existing set top manufacturers and certain cable providers to disregard the existing analog market place and focus attention only on the digital market place of the future should be ignored as self serving and anti-competitive. Likewise, security concerns, while an important consideration must be looked at logically and factually and should not be overblown simply to prevent the commercial availability of legitimate and secure devices from third party suppliers. General Instruments and Scientific Atlanta market their products as some of the most secure systems in the world. This security stems from the hardware itself and not the fact that cable operators lease it out to customers. Any other manufacturers who can manufacture addressable products that are as secure as existing equipment, should not be prohibited from making their products commercially available to the general public where those products are compatible with existing cable systems. Congress certainly did not require that third party equipment be more secure than existing equipment, only that any regulations adopted by the FCC not jeopardize existing security.

II. THE FOCUS SHOULD BE ON THE CONSUMER

Few of the comments directed themselves to consumer concerns and issues. This proceeding should not lose sight of the primary

reason why Congress passed this law in the first place. This is a law intended to benefit consumers by relieving them from what is essentially a hardware monopoly as it applies to cable systems. Consumers are still required to pay rental fees for set top boxes that over the actual in-service life of the equipment far exceed its actual cost or market value. Cable customers have no choice in equipment or features and are forced to accept the "one size fits all" device supplied by the cable system. Even though having no ownership interest in these devices, cable customers are subjected to excessive fees, again exceeding actual value, for lost or destroyed devices, regardless of fault. Additionally, in order to restore the features on their state of the art TVs or VCRs, consumers are required to rent additional equipment from the operator because of the operation of the security device employed by the same operator. In the meantime, cable rates continue to increase. The consumer focus should thus remain in the forefront of these discussions and not be overlooked as a result of the various self serving arguments of existing providers of set top devices.

III. THE DIGITAL VERSUS ANALOG DEBATE

The existing opportunities to provide advanced analog navigation devices to the public in the current cable market place should not simply be swept aside with discussions about future digital technology. It will still be many years before digital systems supplant or even surpass the advanced state of the art analog systems that are presently in place. To date General Instrument has shipped approximately 200,000 digital

devices, which is a fraction of the analog equipment presently being manufactured and sold. According to General Instruments' web site (gi.com/global13/sld.010.html) as of June 12, 1997, it has shipped 1.3 million advanced analog CFT2200 systems since September 30, 1996, and has commitments for 3.5 million more units. The CFT 2200 is "built to meet subscribers' requirements of today and tomorrow" and "to fulfill the solutions needed by cable operators for years to come." The life expectancy of most of the advanced analog devices is at least seven years. Obviously the principle manufacturers of analog devices with their existing contracts with MVPDs have much to lose by open competition in a consumer oriented analog market place. Ignoring this market by focusing only on the future of digital systems allows these manufacturers to maintain their existing control over the current set top market place.

In this regard, the comments by Scientific Atlanta regarding the fact that there are five major suppliers of such devices is somewhat misleading. In fact, General Instruments' equipment alone comprises 63% of the market share for analog set tops and 65% of the market share for advanced analog set tops (see the GI web site referenced above.) Scientific Atlanta is the second largest supplier, with the other three suppliers having only a small fraction of the market. The substantial majority of today's addressable market place is thus controlled by just two manufacturers. They have obviously convinced existing cable system operators to spend billions of dollars purchasing their addressable analog set top devices and will continue to do so for

the foreseeable future. Likewise, as Commercial Engineering has demonstrated, opening this market place would not require a major overhaul of existing analog systems as suggested by the NCTA. It would be contrary to Section 629, which makes no distinction between analog and digital equipment, not to open this market to competition and "assure" that advanced analog navigation devices are commercially available to the consumer public.

In addition, the current market position of the two major manufacturers of cable equipment gives them a direct advantage in the future digital market place. This is unfair to all other potential manufacturers of navigation devices, particularly those directed at consumers. The simple act of licensing technology to Toshiba and Pioneer, for example, is a far cry from the entry of actual competing and consumer oriented products into the market place. There are many smaller manufacturers who will thus be severely prejudiced if they are not allowed to compete and gain experience in the current advanced analog market place in preparation for the eventual introduction of digital technology on a grand scale. Millions of dollars in research and development have been spent by smaller companies preparing for entry into the current consumer market place. The failure of the Commission to allow competition in the analog market place would thus prejudice all other manufacturers, leaving the two industry giants in their present cable system oriented and controlling position, thereby defeating small companies hopes to enter both the current analog as well as the future digital consumer market places.

IV. SECURITY CONCERNS

General Instruments and Scientific Atlanta marketing literature promote their advanced analog set top devices as the most secure in the world. For example, General Instruments advertises its Jerrold Impulse 7000 addressable converter as offering "a level of video security unparalleled in the industry today." The Jerrold Model CFT-2000 descrambler is touted as offering "the most secure signal in the cable industry today." The CFT-2200 has "an unprecedented level of flexibility, upgradability, and security." These manufacturers have obviously convinced cable system operators to spend billions of dollars purchasing their addressable set top devices, based in part on their security features. Now when faced with a competitive market place, they would have the FCC believe that their current security systems are too easily compromised and therefore no one else should enter this market, despite the fact that similar, but consumer oriented equipment, would be both as secure as their devices as well as compatible with existing systems.

Anyone who would attempt to enter the addressable consumer market place would obviously do so only where it would be practical. In this regard, Scientific Atlanta's assertion that there are over 17 different scrambling methods in use today is again misleading. Of the 17 methods listed for scrambling, only three such methods predominate in the substantial majority of the addressable market place which is controlled by Scientific Atlanta and General Instruments. Two of these methods are found

in General Instruments cable systems, tri-mode and base band, and the third in Scientific Atlanta systems which is also a base band system. Furthermore, according to the literature provided by these companies, their latest advanced analog set top devices are backwards compatible to cover all prior methods of scrambling in use by their older systems. Third party addressable technology exists that is likewise backwards compatible for both Scientific Atlanta and General Instruments systems. Both the Scientific Atlanta and General Instruments' decoding systems can each be handled by one security card or module that is installed in an addressable consumer purchased navigation device. A simple switch of these cards or modules would permit a consumer to move his equipment from a Scientific Atlanta system to a General Instruments system, or vice versa. Before the unit could be used on the new system it would, of course, have to be activated by the new system operator. Likewise, removal of the card renders the device usable only as a plain converter.

Advanced analog set tops navigation devices with separate addressable and decryption capabilities that are compatible in the current addressable market place dominated by Scientific Atlanta and General Instruments are actually ready for production. These navigation devices would include dual 800 MHz. tuners, dual security card slots, on-screen programming, advanced parental control, time locks and limits, electronic program guides, modular flexibility, dedicated sports, news and movie channel keys, and other features, and are ready to be made available to the consumer public. Such units are at least as

secure as any existing advanced analog set top devices presently in place. The choice would then be up to the consumer, to continue leasing the cable company box or to invest in his own equipment.

Commercial Engineering has recognized the legitimate concerns for system security and has designed its products accordingly. Unfortunately, however, cable executives have too often used the security argument as justification for much more than the prevention of theft, as it appears they are doing here. For example, cable executives have argued with pay per view event distributors in revenue negotiations that the effects of piracy are "overblown" and "a red herring". (Cable World, May 8, 1995, Tyson's Return: A Mixed Blessing, p. 193). They can't have it both ways. Likewise, the much referenced \$5 billion estimated theft loss number has never been adequately documented or proven. Originally it was \$2 billion, then three, then four, and now allegedly five, in spite of the tremendous success of the anti-theft efforts described by the cable industry. In fact, theft of non-scrambled basic cable services may be the largest form of cable theft, comprising almost 60% of cable thieves. (Id. at 192). Basic cable thieves only need a cable ready TV to electronically complete the theft. Implementation of Section 629 will have no effect on this type of theft. The security issue should simply not be permitted to defeat the commercial availability of navigation devices in the current analog market place where addressable navigation devices can be provided

directly to the public which are just as secure as any existing cable system supplied devices.

Commercial Engineering is also not convinced that the security functions need to be separated from the operating functions of a navigation device. The bottom line is that the security function, whether in the form of a separate security module or integrated within the navigation device, and whether it is supplied by the system operator or by a third party vendor, eventually ends up in the hands of the consuming public. If this same equipment is all designed so that it can only be activated by an addressable command from the system operator, what real security difference is there? The answer is, of course, none.

The cable industry would instead have one believe that by making such legitimate addressable navigation devices commercially available to consumers in a right to attach environment, this would, in some unexplained fashion, cause an increase in sales of unauthorized devices designed to steal signals. But, as the cable industry so aptly points out, there are already sellers of such devices, mostly altered Scientific Atlanta or General Instrument equipment purchased on the open market in its original state, in existence under the current cable system "controlled" market. Addressable and secure navigation devices available to consumers from third party vendors would be no more susceptible to cable theft than existing equipment and perhaps even less so. In fact, the availability of addressable and secure equipment to the consumer public may well have the effect of rendering prosecution of vendors of equipment

with security defeating capabilities much simpler, since it would make the intent element of 47 U.S.C. §553 easier to establish by eliminating the various "economic" defenses that have been successfully used by retailers of such equipment in some court proceedings. If secure addressable third party commercial equipment is available in a competitive market, the argument for avoiding the cumulative cable system rental payments used by such unauthorized dealers disappears.

In any event, the issue of who provides the security portion of the equipment to the consumer is not so much a signal security issue as it is a system control issue and is thus more of a "security blanket" for system operators. Logic and demonstrable facts should predominate on this issue rather than general fears, hysteria and unsubstantiated speculation. If addressable and secure navigation devices provided to consumers by MVPDs are acceptable, then compatible, addressable and secure devices provided to consumers by third party vendors should also be acceptable.

V. DEFINITION OF AFFILIATE

Presently, when a cable system chooses a supplier for its set top devices, the cable system is then locked into that particular manufacturer's technology and hardware which are presently not compatible with other existing equipment. Likewise, if a cable system operator wants to change the supplier of its equipment, it must go through substantial expense and effort in a hardware exchange program. For this reason alone the

FCC should consider the current supplier of set top boxes for a cable system as an affiliate of that MVPD.

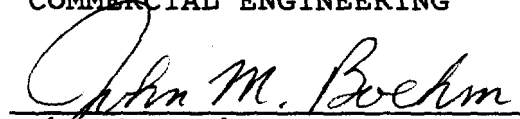
VI. CONCLUSION

Commercial Engineering is prepared to launch addressable and secure set top navigation devices into the consumer market place now. These navigation devices would be compatible in an overwhelming majority of the addressable homes in this market place and would provide feature rich enhancements that are presently not available to the consuming public. The best and quickest way to make such products and choices available to the consuming public is to open competition in what is now a closed arena, and to allow such devices to be marketed to the public. This is provided, of course, that such devices are at least as secure as existing devices, and can be activated only by an addressable signal from the cable operator, as is the case with Commercial Engineering's own navigation devices. In this essential respect these navigation devices operate exactly the same as the devices provided to the consumer from the cable system operator and they are thus clearly just as secure. On the other hand, waiting for the decoder interface standard to be put in place, or waiting for digital technology to become the norm, may take years. There are no valid reasons not to make equipment, such as that described by Commercial Engineering, commercially available to the public now. The FCC should promptly issue rules authorizing the availability and marketability of such equipment in a right to attach environment which will thus meet all of the concerns expressed by Congress.

Respectfully submitted,

COMMERCIAL ENGINEERING

BY:

A handwritten signature in cursive script, reading "John M. Boehm", written over a horizontal line.

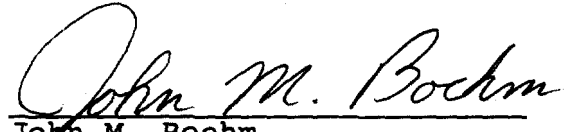
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CERTIFICATE OF SERVICE

I, John M. Boehm, do hereby certify that a copy of Reply Comments of Commercial Engineering, has been served on the parties on the attached service list, via first class mail, postage prepaid, on the 23rd day of June, 1997.

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